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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/522,467 | 01/26/2005 | Estelle Lesellier | FR 020082 | 6150 |

24737 7590 06/26/2008
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

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| EXAMINER |
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THOMAS, MIA M

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| ART UNIT | PAPER NUMBER |
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2624

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| MAIL DATE | DELIVERY MODE |
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06/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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| Office Action Summary | Application No. 10/522,467 | Applicant(s) LESELLIER ET AL. | |
| | Examiner Mia M. Thomas | Art Unit 2624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the applicant's remarks received on 4 March 2008. Claims 1-9 are pending in the application and stand rejected. Claims 1, 2, 3, 8 and 9 have been amended. Claims 1, 8 and 9 are independent claims. The amendment for instant application 10/522,467 has been entered for the record.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

a. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 7 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a plurality of structural elements performing the claimed functions, does not reasonably provide enablement for a single structural element performing all of the claimed functions.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims ("A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first

Art Unit: 2624

paragraph” because a single means claim covers “every conceivable means for achieving the stated purpose” and “the specification disclosed at most only those means known to the inventor” - *MPEP*, at paragraph 2164.08(a)).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 8 provides for the use of “processing a sequence of digital images”. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

7. Claims 1 and 8 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (Official Gazette notice of 22 November 2005), Section IV.C, reads as follows:

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim

Art Unit: 2624

must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it "has no substantial practical application").

To satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:

The claimed invention "transforms" an article or physical object to a different state or thing.

The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

9. Claims 1 and 8 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1 and 8 recites functional descriptive material on a computer readable medium. However, the program/algorithm itself merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application. A practical application exists if the result of the claimed invention is "useful, concrete and tangible" (with the emphasis on "result")(Guidelines, section IV.C.2.b). A "useful" result is one that satisfies the utility requirement of section 101, a "concrete" result is one that is "repeatable" or "predictable", and a "tangible" result is one that is "real", or "real-world", as opposed to "abstract" (Guidelines, section IV.C.2.b)). Claims 1 and 8 merely manipulates data without ever producing a useful, concrete and tangible result. Accordingly, claims 1 and 8 simply entail the mathematical manipulation of "intentions for processing a sequence of digital images"; however, as read by claim 1 specifically, the only steps that occur are detecting and determination via a row comparison and manipulating the difference between those rows. There is no output for the result of the detecting and determination. Accordingly, the same rejection stands for claim 8.

In order to for the claimed product to produce a “useful, concrete and tangible” result, recitation of one or more of the following elements is suggested:

- The manipulation of data that represents a physical object or activity transformed from outside the computer.
- A physical transformations outside the computer, for example in the form of pre or post computer processing activity.
- A direct recitation of a practical application;

It is the result that is the focus. If the result has a real world practical application/use, then the test has been satisfied. The claim need not include the uses to which the result is ultimately put, just the result itself. Applicant is advised to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result.

Drawings

10. The drawings are objected to under 37 CFR 1.83(a) because they fail to show appropriate contrast and distinct details as described in the specification. Specifically at Figure 3a and Figure 3b, P as shown diagrammatically on page 2 of 3 in the drawings, above SG (t), does not clearly show the numbers associated with SG (t) and RG (t). It appears that there are some numerical digits i.e. numbers 2 and 0 but it is not clear where they should be placed or associated as suggested in Figure 3a. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet

Art Unit: 2624

should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

11. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in

Art Unit: 2624

memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

12. Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 9 defines a computer program product embodying functional descriptive material. However, the claim does not define a computer-readable medium or computer-readable memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). With specific reference to page 11, line 28-page 12, line 2, the specification details the elements of Claim 9 "in the form of a downloadable signal". This deems the claim non-statutory. The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests amending the claim(s) to embody the program on "computer-readable medium" or equivalent; assuming the specification does NOT define the computer readable medium as a "signal", "carrier wave", or "transmission medium" which are deemed non-statutory (refer to "note" below). Any amendment to the claim should be commensurate with its corresponding disclosure.

Note:

A "signal" (or equivalent) embodying functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101.

Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material.

Should the full scope of the claim as properly read in light of the disclosure encompass non-statutory subject matter such as a “signal”, the claim as a whole would be non-statutory. In the case where the specification defines the computer readable medium or memory as statutory tangible products such as a hard drive, ROM, RAM, etc, as well as a non-statutory entity such as a “signal”, “carrier wave”, or “transmission medium”, the examiner suggests amending the claim to include the disclosed tangible computer readable media, while at the same time excluding the intangible media such as signals, carrier waves, etc.

Claim Rejections - 35 USC § 103

13 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 1, 2, 6, 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martins et al. (US 6,438,275 B1) in combination Silverstein (US 5,822,469).

Regarding Claim 1: (Currently amended) Martins discloses a method of processing a sequence of digital images (“An embodiment of the present invention comprises a method and apparatus for performing motion compensated, pixel-based interpolation of frames in a digital video stream.” at column 2, line 2, line 53), intended to detect a grid corresponding to blocking artifacts (“Embodiments of the present invention provide improvements over the prior art for delivering better quality interpolated frames, a wider operating range in terms of frame rate and data rates, improved multiple frame interpolation quality, and better handling of scene changes and fast motion sequences.” at column 2, line 56), said method comprising the steps of:

Art Unit: 2624

detecting (100) a spatial grid (SG) within a portion of the image ("In one embodiment, pixel motion may be detected by a change in one or more of the red, green and blue pixel color values from one frame to the next frame." at column 5, line 36), determining (200) a current reference grid (RG(t)) (Refer to Figure 2, numeral 22) from a current spatial grid (SG(t)) (Refer to figure 2, numeral 20) and a preceding reference grid (RG(t-1)) (Refer Figure 2, numeral 24).

Martins does not specifically teach/disclose based on a row comparison between said current reference grid and said preceding reference grid, wherein a number of grid rows differing between the current spatial grid SG(t) and the preceding reference grid RG(t-1) is smaller than one third a number of grid rows of the preceding reference grid RG(t- 1). However,

Silverstein teaches based on a row comparison between said current reference grid and said preceding reference grid, wherein a number of grid rows differing between the current spatial grid SG (t) and the preceding reference grid RG (t-1) is smaller than one third a number of grid rows of the preceding reference grid RG (t- 1) ("Each horizontally adjacent pair of pixels in the contone image are compared with each other. If the difference between their luminance is greater than a threshold, then the corresponding pair of adjacent pixels in the halftone image is compared. If the difference between the halftone image pixels has the opposite sign of the differences between the contone image pixels (e.g., the image changes from dark to light, but the halftone pixels change from light to black), the two halftone pixels are exchanged with each other." at abstract; further at column 1, line 53+).

Art Unit: 2624

Martins and Silverstein are combinable because they are in the same field of image transformation and enhancement. (See title and abstract of each invention)

At the time that the invention was made, it would have been obvious to the skilled artisan to create an algorithm that allows the processor "based on a row comparison between said current reference grid and said preceding reference grid, wherein a number of grid rows differing between the current spatial grid SG (t) and the preceding reference grid RG (t-1) is smaller than one third a number of grid rows of the preceding reference grid RG (t- 1)."

The suggestion/motivation to do so would have been to "allow the procedure to be applied as a post filter to any halftoned image, and can substantially improve the image quality. The procedure works with binary, multiple gray level and color images. The procedure is also reasonably fast to compute." at abstract, Silverstein.

Therefore, it would have been obvious to one of ordinary skill in the art to combine the disclosure of Martins with the teachings of Silverstein to obtain the specified claimed elements of Claim 1.

Regarding Claim 8: Claim 1 and 8 equally resemble the same subject matter, one claim being the specified method steps while the other claim is specified as the device of this instant application. Claim 8 is rejected for the same reasons, rationale and motivation as rejected above at Claim 1. More specifically, Martins discloses a device for processing a sequence of digital images, intended to detect a grid corresponding to blocking artifacts ("FIG. 1 is a diagram

Art Unit: 2624

of a system 10 for multimedia communication between a "sender 12" and a receiver 14 over a communications path 16 according to one embodiment of the present invention. Sender 12 may be any device for communicating multimedia data signals. Receiver 14 may be any device for receiving, processing and displaying audio and video streams..." at column 4, line 24).

Therefore, Claim 8 is rejected for the same reasons as listed above at Claim 1.

Regarding Claim 2 (Currently amended): Martins discloses wherein a grid (SG, RG) comprises sets of at least one block artifact ("By comparing pixel values in the frames, each pixel may be classified as either stationary, moving, covered, or uncovered. Initially, a threshold comparison may be made to determine if a pixel has changed or not changed. If the pixel has the same values in the previous to the previous frame, the previous frame, and the current frame, then no change was detected and the pixel may be classified as stationary." at column 5, line 39) within each row of said grids and wherein the reference grid (RG) (Refer to the arrow connecting Figure 2, numeral 22) comprises an indicator (ind) associated with a set of at least one block artifact (with Figure 2, numeral 36), wherein an indicator of the current reference grid (RG(t)) being updated from the corresponding indicator of the preceding reference grid (RG(t-1)) (Refer to Figure 2, numeral 28) and from a presence or absence of the set of at least one block artifact associated with said indicator in the corresponding row of said current spatial grid (SG(t)) ("Pixel classifications may be used by rendering component 28 during generation of interpolated frames 30. Rendering component 28 uses the output of the pixel classification component 26 to identify triangles of meshes in a frame that may be trivially rendered by simple copying from a source frame (e.g., a previous frame) to a new interpolated frame. This provides processing savings and quality enhancement for static background regions within a frame. Trivially

Art Unit: 2624

renderable triangles are those that have a large majority of stationary pixels, and thus they can be rendered as a direct copy of the previous frame into the interpolated frame." at column 5, line 57).

Regarding Claim 3: (Currently amended) Martins teaches the set of blocking artifacts is constituted by a row of the portion of the image having a blocking artifact density which is higher than that of the neighboring rows (Refer to Figure 3, numerals 46, 48, 50 and 52; " At block 48, nodes may be inserted into the frame image boundary to deal with boundary conditions. Next, at block 50 the pre-processed edge map may be recursively traced to identify both nodes and edge segments. Every time a node is identified, a protection zone around the node (in one embodiment, a 7 x7 pixel rectangle may be used) is marked as already traced. The protection zone demarcation may be used to avoid the generation of nodes that are too close to each other, a problem that may exist for both triangulation and rendering. Pseudo code for recursive node identification via edge tracing in one embodiment is shown in Table I." at column 7, line 63).

Regarding Claim 6: Martins discloses comprising a step (300) of correcting the blocking artifacts which are present in a set of blocking artifacts of the current reference grid (RG (t)) in accordance with a value of the indicator (ind) associated with said set ("Blocks 40-46 may be used to "clean up" the edge maps such that spurious and texture edges are not considered in the node selection process. FIG. 4 is an example of a previous frame before and after edge detection, edge thinning, edge linking, and removal of short edges according to an embodiment of the present invention. The image on the left of FIG. 4 is a sample previous frame prior to

Art Unit: 2624

edge processing. The image on the right of FIG. 4 illustrates the results of processing of blocks 40-46." at column 7, line 54).

Regarding Claim 9: (Currently amended) Martins disclose a computer program product comprising a set of instructions stored in a programming memory, which, when loaded into a circuit, causes said circuit to perform the method of processing digital images as claimed in claim 1 ("However, embodiments of the invention may be implemented as computer programs executing on programmable systems comprising at least one processor, a data storage system (including volatile and non-volatile memory and/or storage elements), at least one input device, and at least one output device. Program code may be applied to input data to perform the functions described herein and generate output information." at column 11, line 1; Further see lines 7-11).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 4, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martins et al. (US 6,438,275 B1) in combination with Silverstein (US 5,822,469) and Nio et al. (US 6,738,528 B1).

Regarding Claim 4:

Martins and Silverstein in combination disclose all the claimed elements as listed above.

Martins in combination with Silverstein does not specifically disclose the step of detecting the spatial grid to perform a high-pass filtering operation on the portion of the image such that at least one card of discontinuity pixels is supplied and to detect a first and second type of block artifact from at least one cards of discontinuity pixels.

Nio teaches the step of detecting the spatial grid is intended to perform a high-pass filtering operation (110) on the portion of the image ("FIG. 12 is a block diagram showing the structure of a block noise eliminating apparatus according to a fourth embodiment of the present invention. In FIG. 12, a block noise eliminating apparatus 40 of the fourth embodiment is structured by a horizontal block boundary detecting part 41, a vertical block boundary detecting part 42, a block area detecting part 43, a block boundary smoothing part 44, and a picture enhancing part 45." at column 24, line 20), such that at least one card of discontinuity pixels is supplied (Refer to Figure 12, numeral 41-"Horizontal Block" or numeral 42-"Vertical Block"), and to detect a first type (p1) of block artifact and a second type (p2) of block artifact from the at least one card of discontinuity pixels (Further referring to Figure 12, numeral 44-"Block Boundary Smoothing Part" detects the first and second types of blocking artifacts. The examples of the first type of blocking artifacts would be adjacent to numeral 418 (at Figure 13) -"Horizontal Block Boundary" and similarly adjacent to numeral 428 (at figure 14)-"Vertical Block Boundary").

Martins and Silverstein and Nio are combinable because they are in the same field of image enhancement or transformation with specific regards to minimizing discontinuities at boundaries of image blocks. (See classification and abstract of each invention).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to utilize the step of performing a high pass filtering operation on the portion of the image to detect blocking artifacts from at least one card of discontinuity pixels as taught by Nio because "by identifying such high-frequency components (horizontal and vertical components as taught by Nio at Fig 13 and Fig 14), we can effectively reduce the blocky noise with techniques such as (high pass filtering)" and "in this manner, processing [of] and taking the frame (grid) difference can be enhanced, image quality improved and data is reduced in volume." (Hadhoud et al., page 301, paragraph 3 and Nio-column 5, line 63, respectively.)

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Martins in combination with Silverstein with the teachings of Nio to obtain the specified claimed elements as specified by Claim 4.

Regarding Claim 5: Nio teaches (Original) a step (300) of correcting the blocking artifacts which are present in the current reference grid (RG (t)) in accordance with their type (p1, p2); ("As a result, smoothing or picture enhancement can be properly done corresponding to the block noise level (With reference to Figure 14 and Figure 15), and accordingly, the block noise can be eliminated more effectively for the best match to visual scenes. Further, by OSD displaying information, video sources or effects of block noise elimination can be acknowledged at a glance." at column 29, line 18).

Regarding Claim 7 (Previously presented): Nio teaches a television receiver (For example at Figure 1, numeral 101) comprising a processing device using the data processing method as

Art Unit: 2624

claimed in claim 5, intended to detect a reference grid (RG) within a sequence of digital images and to correct the blocking artifacts' which are present in said grid with a view to displaying corrected digital images on a screen of said receiver ("As is described in the foregoing, in a video processing device (a television receiver, for example) using digital video signals subjected to lossy encoding on a predetermined image block basis, the present invention can be applied, first, to correctly detect and eliminate block noise to be arisen when the video signal is decoded, and second, to correctly regenerate a dot clock." at column 31, line 39).

Response to Arguments

17. Applicant's arguments filed 06 March 2008 with respect to "Drawings" have been fully considered but they are not persuasive.

Summary of Remarks: See page 5; "Applicant believes that subject matter shown in Figures 3a and 3b, in conjunction with the description of these figures in the written description, would be understood by the skilled artisan."

Examiner's Response: *Examiner disagrees.* The applicant explicitly traverses the objection to the drawings with respect to Figures 3a and 3b. However, what the applicant has observed of Figures 3a and 3b does not possess the same contrast or detail as the applicant traverses. The Examiner is not going to read limitations from the specification into the claim language nor into the drawings and since the drawings do not have appropriate contrast the Examiner cannot make out what data is in the graph, nor can the Examiner see the "ind" and "p" of each graph, therefore, the objection to these drawings remains. Perhaps a supplementary drawing or

Art Unit: 2624

submission of these drawings in another format would clarify the condition of the contrast for these Figures.

18. Applicant's arguments, see page 2, filed 06 March 2008, with respect to Claim Objections (3) have been fully considered and are persuasive. The objection of claim 3 has been withdrawn.

19. Applicant's arguments filed 06 March 2008, at page 6 with respect to "101 Rejections, Claim 9" have been fully considered but they are not persuasive.

Examiner's Response: The specification at page 11, line 28 - page 12, line 2 states the elements of Claim 9 will put the computer program in the form of a "downloadable signal" which is considered non-statutory, rendering the claim rejectable under 35 U.S.C 101. The rejection of Claim 9 stands.

20. Applicant's arguments with respect to Claim Rejections, accordingly with respect to 102(e) rejections, Martins (at page 6-8, Claims 1-3,6,8 and 9); Kutka (at page 8, claim 1);and 103 (a) rejections Martins in combination with Nio (at page 9, claims 4,5 and 7) have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (*Documents previously made of record in the last Office Action*)

- Hadhoud et al. "Improved Method for Blocking Artifact Reduction in Block Coded Images in Wavelet-Transform Domain." 19th National Radio Science Conference, Alexandria, March 19-21, 2002, pages 301-308.

Art Unit: 2624

- Chae et al. "Blocking Artifact Reduction in JPEG Coded Images" Image Processing 1999, ICIP 99 Proceedings International Conference, Kobe Japan. Volume 2, 24 October 1999, pages 894-898.
- Minami et al. "An Optimization Approach for Removing Blocking Effects in Transform Coding" IEEE Transactions on Circuits and Systems for Video Technology, Vol 5, No. 2 April 1995. pages 74-82.
- Zhongjie et al. "New Approach to Reducing Blocking Effects in Stereo Video Coding" Signal Processing, 2002 6th International Conference Volume 2, 26-30 August 2002. pages 1027-1030.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is (571)270-1583. The examiner can normally be reached on Monday-Thursday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

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/Mia M Thomas/
Examiner, Art Unit 2624

/Vikkram Bali/

Supervisory Patent Examiner, Art Unit 2624